

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number  
**WO 2005/070943 A1**

(51) International Patent Classification<sup>7</sup>: **C07H 1/06**,  
C13D 3/16

(21) International Application Number:  
PCT/US2005/002262

(22) International Filing Date: 24 January 2005 (24.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/538,698 23 January 2004 (23.01.2004) US

(71) Applicant (for all designated States except US): **OHIO  
UNIVERSITY** [US/US]; 20 East Circle Drive, Suite 190,  
Athens, Ohio 45701-3751 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **REN, Yulin** [CN/US];  
1308 Carriage Hill Drive, Athens, Ohio 45701 (US).

(74) Agent: **FROST, Kristin**; 800 Superior Avenue, Suite  
1400, Cleveland, Ohio 44114-2688 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

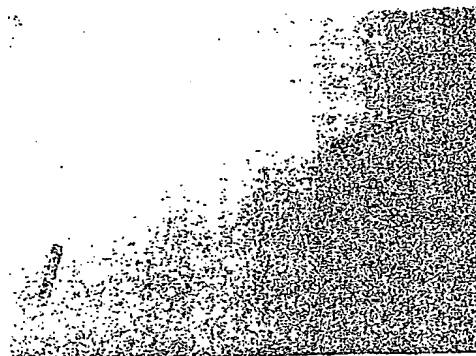
For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **PGG SEPARATION AND PURIFICATION**



**$\alpha$ -PGG crystals (x 50)**

Long, thin and needle-like



**$\beta$ -PGG crystals (x 50)**

Short and rod-like

(57) Abstract: A simple, inexpensive, and efficient method for separation and purification of the  $\alpha$ - and  $\beta$ - FORMS OF penta-O-galloyl-D-glucose (PGG) without the need for HPLC. The methods provided herein are useful for separating  $\alpha$ -PGG or  $\beta$ -PGG from a mixture that contains  $\alpha$ -PGG and  $\beta$ -PGG and other chemicals. The method for separation of  $\alpha$ -PGG from a mixture of  $\alpha$ -PGG and  $\beta$ -PGG comprises the steps of: adding water to a sample containing 50% or more  $\alpha$ -PGG and 50% or less  $\beta$ -PGG; mixing the PGG and water to dissolve the PGG; filtering out any undissolved particles; and allowing the filtered solution to stand undisturbed until crystals form.

WO 2005/070943 A1